APPENDIX C

CONCEPTUAL WETLAND MITIGATION PLAN

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The Conceptual Wetland Mitigation Plan*

* Appendix C is taken from Section 8 of the Wetland Technical Report for Relocated Illinois Route 3, FAP 14, Section (64,510)-1, Madison and St. Clair Counties, P-98-082-90, December 1998 revision. This material has been updated for the March 2000 DEIS.

The conclusion has been excerpted from the Biological Assessment for the Proposed New Mississippi River Bridge and the Proposed Illinois Route 3, St. Clair and Madison Counties, prepared by the Illinois Department of Transportation, February 2000.

8.0 WETLAND COMPENSATION

The Interagency Wetland Policy Act of 1989 (Act) applies to the proposed Federal Aid Project (FAP) number 14 (Illinois Route 3). The Act states that unavoidable adverse impacts to wetlands are to be compensated or mitigated. The Administrative Rules to the Act require that state agencies shall comply with the Act through the development and implementation of their Agency Action Plan (AAP) and that if there will be adverse impacts, the agency (IDOT) is responsible for the development and implementation of a wetland compensation plan. This amended section of the Wetland Technical Report describes how IDOT will compensate for adverse wetland impacts associated with the proposed highway project.

Analysis shows that there will be adverse impacts to wetlands at 20 locations within the study corridor. Permanent impacts total approximately 8.47 ha (21.11 ac). Wetland types include wet meadow (29.5 percent), wet shrubland (15.6 percent), shallow pond (46.9 percent), forested wetland (7.1 percent) and farmed wetland (0.9 percent). The average floristic quality index (FQI) of the sites is 6.97. The FQI ranges between 10.6 (Wetland Site 7C) and 1.9 (Wetland Site 17C). Wetland Site 7C is the only wetland with an FQI greater than 10. Values of ten or less indicate low natural quality. The single greatest area of impact would be to the co-located Wetland Sites 21 and 23, with 1.68 ha (4.15 ac) of impacts. Wetland Sites 21 and 23 would be impacted by the proposed roadway alignment and one of the retention basins for the roadway.

The IDOT intends to compensate for adverse impacts to wetlands via replacement. Approximately 30.93 ha (76.35 ac) of off-site wetland replacement will have to be provided for FAP 14. Table 4.4 lists the mitigation ratios and amount of mitigation for each of the impacted wetlands that will be applied to this project. These ratios are from the Implementing Procedures for the Interagency Wetlands Policy Act.

8.1 Goals and Objectives

The IDOT's primary goal for wetland replacement is to restore, to jurisdictional status, 30.93 ha (76.35 ac) off-site of wetlands. The secondary goal is to restore wetlands to a moderate (greater than 10 FQI) to high floristic quality.

8.2 Site Selection and Description

On-site mitigation is preferred for unavoidable wetland impacts. To be considered on-site mitigation, and thus have lower replacement ratios apply, a wetland replacement site must be within 1.6 km (1.0 mi) of the wetland impacts in the project area. This was determined not to be possible for FAP 14 because much of the project is contaminated by hazardous waste and open land is limited. A field reconnaissance of the project and surrounding areas verified this situation.

Because wetland impacts could not be mitigated on-site, off-site locations, as close to the project corridor as possible, were identified. The site acquired for wetland compensation originally consisted of two adjoining parcels, located approximately 10 km (6 mi) east of the project corridor (SE¼, NE¼, Sec 25, R9W, T3N, Monks Mound Quadrangle, Illinois, 7.5' series topographic map). Exhibits 1, 4, and 6 of this section (Appendix C) show the location of the site.

Approximately 16 ha (40 ac) were owned by Eckmann and approximately 8 ha (20 ac) were owned by Bischoff. The Eckmann property was acquired July 31, 1995 and the Bischoff property was acquired April, 14 1997. At the time of each acquisition, neither parcel contained jurisdictional wetlands, based on USDA/NRCS mapping.

The Illinois Department of Transportation has proposed and implemented a plan of restoration that allows for natural regeneration. This concept was proposed because most of the site contained hydric soils, the hydrology had been restored, and it was bordered by grade B shrub swamp/pond communities to the south. This conceptual plan is put forth in the wetland technical report (PB Booker, 1998) and summarized in Section 4 of this document.

Since acquisition, a majority of the site has reverted to jurisdictional wetland. The Illinois State Geological Survey has monitored the Eckmann portion of the site since 1997 and determined that approximately 90 percent of that parcel has wetland hydrology. Monitoring of the Bischoff parcel was initiated mid-way through the growing season of 2000 and therefore insufficient data were collected to make a determination concerning wetland hydrology at the time this document was prepared. The Illinois Natural History Survey inventoried the vegetation of the

24-ha (60-ac) site and determined the floristic quality index to be 21.5, most of it was dominated by hydrophytic vegetation, and the federally endangered decurrent false aster (Boltonia decurrens) was also present.

This site was shown to the U. S. Army Corps of Engineers, U. S. Fish and Wildlife Service, and Illinois Department of Natural Resources on September 21, 2000. All agreed with the site selection and approach to restoring wetlands, but withheld final approval until after the public comment period.

Hydrology

The Illinois State Geological Survey (ISGS) conducted and Initial Site Evaluation on November 11, 1994 (Rorick 1994) and since November 7, 1996 the ISGS has been monitoring the site's hydrology. In 1997, the ISGS determined that approximately ninety percent of the site had wetland hydrology. In 1998, the site contained approximately one hundred percent wetland hydrology.

A map based on the ISGS fieldwork shows the flow of surface water through the proposed wetland replacement site (Exhibit 5).

Wetlands

No wetlands are depicted within the proposed replacement site on wetland inventory maps prepared by the NRCS (no date) and the NWI Map by the USFWS (1987) (Exhibits 7 and 8 of this section, respectively).

A palustrine emergent wetland borders the east-side of the site and a palustrine forested wetland borders the south side of the site (USFWS, 1987). The palustrine forested wetland, Levee Lake, is also an inventoried natural area. The area is 89.8 ha (222 ac) and features grade B shrub swamp/pond communities (White 1978).

Soils

The Soil Survey Report of Madison County (NRCS, 1986) shows that approximately ninety percent of the site is covered by Beaucoup silty clay loam soil and ten percent by Wakeland silt loam soil (Exhibit 9). Beaucoup is a hydric soil and formed under wetlands. Wakeland is non-hydric.

Although the soils within the proposed wetland replacement site are considered prime, there is no need to complete a Farmland Conversion Impact Rating Form (AD-1006) since it is located within the 2.4 km (1.5 mi) planning area of Collinsville's adopted comprehensive plan.

Vegetation

The entire proposed wetland replacement site has been cleared of its original vegetation and in most years it is farmed.

The wetland bordering the east side of the replacement site is dominated by eastern cottonwood, *Populus deltoides,* in the shrub layer and giant ragweed, *Ambrosia trifida*; panioled aster, *Aster simplex*; giant foxtail, *Setaria faberi;* and cocklebur, *Xanthium strumarium* in the herbaceous layer. The wetland south of the replacement site is dominated by silver maple, *Acer saccharinum*; green ash, *Fraxinus pennsylvanica* and black willow, *Salix nigra* in the tree layer: silver maple, *Acer saccharinum,* in the sapling layer; box elder, *Acer negundo*; rough-leaved dogwood, *Cornus drummondii* and poison ivy, *Toxicodendron radicans* in the shrub layer; and yellow corydalis, *Corydalis flavula* and dead nettle, *Lamium purpureum* in the herbaceous layer. The south wetland, or Levee Lake, features grade B shrub swamp/pond communities.

8.3 Site Analysis

Based on two years of ISGS data and some initial site investigations, it appears that little work would have to be done to restore wetland hydrology, hydric soils and hydrophytic vegetation to the proposed wetland replacement site. The potential for success appears to be very high.

The proposed replacement wetland and the Levee Lake natural area would benefit from each other and their combined area would create one, large, unfragmented wetland. Plant propagules from the grade B shrub swamp/pond would undoubtedly colonize the wetland replacement and the replacement would in turn provide buffer to the natural area.

8.4 Conceptual Wetland Compensation Plan

The IDOT proposes to restore wetlands at the wetland replacement site by allowing for natural colonization. The IDOT and staff from the Wetlands Group at the Illinois Natural History Survey would monitor the site and study old field succession in the wetland.

The Illinois Department of Transportation anticipated that the proposed wetland replacement would become colonized by hydrophytic vegetation within one to two years and that the floristic quality index of the site would exceed a value of 10 within a five-year monitoring period. Subsequent monitoring of the Eckmann parcel and a vegetative inventory of the entire mitigation site has confirmed this prediction. Findings from the proposed wetland replacement site and subsequent monitoring period could be applied to wetland replacements in other locations.

Conclusion

The proposed wetland mitigation site for impacts caused by FAP 14 had the physical characteristics that would promote the establishment of a created wetland. Implementation of the wetland mitigation plan and subsequent monitoring of the mitigation site has confirmed the establishment of the created wetland. However, because the area required to mitigate wetland impacts (30.93 ha [76.35 ac]) exceeds the area available (25.5 ha [63 ac]), additional mitigation sites will need to be identified. The Illinois Department of Transportation staff will identify potential mitigation sites and coordinate with the USACE, USFWS, and IDNR to select an appropriate site or sites for the additional required mitigation.